



**Fermilab**

**Particle Physics Division**

**Mechanical Department Engineering Note**

**MD-ENG-368**

Number: PPD-Doc-1471 / COUPP-Doc-507

Date: July 27, 2011

Project: COUPP-60

Title: COUPP-60 Hydraulic Hose Failure Analysis

Author(s): Erik Voirin

Reviewer(s): Rich Schmitt

*RL 7/27/2011*

Key Words: pressure fluctuation hydraulic hose failure bending stress

Abstract Summary:

This document is an analysis of the cause for the hydraulic hose failure which occurred on the COUPP project. This document lists a compilation of hydraulic hose failure modes from multiple sources, defines the plausibility of each failure mode being a contributing factor to this, and possible future failures. Conclusion is the failure was caused by improper installation and bending forces near the hoses end connection. Recommendations for design and material changes, inspection schedules, and proper hose installation are supplied in the document.